



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re
For

: Application of Miller et al.
: METHOD AND APPARATUS FOR
: TRANSPORTING POWDER COATING
: MATERIAL FROM A BOX SHAPED
: CONTAINER
: 08/126,391
: September 23, 1993
: 3102
: A. Pike
: NR-103CIP

Serial No.
Filed
Group Art Unit
Examiner
Our Docket No.

August 1, 1995

HONORABLE COMMISSIONER OF
PATENTS & TRADEMARKS
WASHINGTON, D.C. 20231

AMENDMENT

Sir:

This is in response to the Final Office Action mailed June 8, 1995 and having a period for response set to expire on September 8, 1995. Please amend the referenced application as follows:

IN THE CLAIMS

Please amend the following claims 1, 4, 5, 37, and 42 as follows:

1.(trice amended) An apparatus for unloading powder from a plastic liner within a box-shaped container, said apparatus comprising:

a support structure;

a cradle mounted to said support structure for

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supporting said box-shaped container at an angle with respect to horizontal in a tilted position, said box-shaped container having a lowermost interior portion in said tilted position;

a pick-up tube having a lower inlet end with at least one inlet opening adapted to being positioned within said container in said lowermost interior portion, said pick-up tube having an upper outlet end for discharging the powder;

a support arm projecting out over [the] a top of said box-shaped container from said support structure to support said pick-up tube so that said pick-up tube can assume a substantially vertical orientation when said lower inlet end of said pick-up tube is positioned in said lowermost interior portion of said box-shaped container; and

a powder pump associated with said upper outlet end of said pick-up tube for drawing the powder from said plastic liner within said box-shaped container, into said at least one inlet opening of said pick-up tube, and discharging the powder from said outlet end.

2. The apparatus of claim 1 wherein said cradle has a base plate and two adjoining side plates mounted vertically upward therefrom and converging therewith to form a cradle corner, said cradle being adapted to support said container with a container bottom surface on said base plate, two adjoining container sides against said side plates, and a

lower container corner in said cradle corner, said lower container corner comprising said lowermost interior portion, and a plane through said base plate extending at said angle with respect to said horizontal.

3. The apparatus of claim 1 further comprising a vibrator associated said cradle for moving said powder towards said lowermost interior portion of said box-shaped container.

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4. (amended) An apparatus for unloading powder from a box-shaped container, said apparatus comprising:

a support structure;

a cradle mounted to said support structure for supporting said box-shaped container at an angle with respect to horizontal in a tilted position, said box-shaped container having a lowermost interior portion in said tilted position;

a pick-up tube having a lower inlet end with at least one inlet opening adapted to being positioned within said container in said lowermost interior portion, said pick-up tube having an upper outlet end for discharging the powder; and

a powder pump associated with said upper outlet end of said pick-up tube for drawing the powder from said box-shaped container, into said at least one inlet opening of

said pick-up tube, and discharging the powder from said outlet end;

said pick-up tube having a closed lower end.

¹⁰
~~5~~. (amended) The apparatus of claim ⁹ wherein said pick-up tube has at least two [or more] inlet holes extending through a wall of said tube above said closed lower end.

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~~6~~. The apparatus of claim 3 wherein said vibrator is attached to said cradle for vibrating said powder to loosen the powder and thereby encourage said powder to move by gravity towards said lowermost interior portion of said container.

⁵
~~7~~. The apparatus of claim ⁴ ~~6~~ further comprising a vibration damping device installed between said cradle and said support structure.

⁶
~~8~~. The apparatus of claim 1 wherein said powder pump is attached to said upper outlet end of said pick-up tube for transferring the powder drawn out of said box-shaped container into a feed tube for delivery to a powder spray gun.

⁷
~~9~~. The apparatus of claim ⁶ ~~8~~ wherein said feed tube has

an outlet which is directly connected to a powder inlet of said powder spray gun.

~~11~~
~~10.~~ An apparatus for unloading powder from a plastic liner within a box-shaped container, said apparatus comprising:

a support structure;

a cradle mounted to said support structure for supporting said box-shaped container in a tilted position with respect to horizontal, said box-shaped container having a lowermost interior portion in said tilted position;

a pick-up tube having a lower end and at least one inlet opening being adapted to be positioned within said box-shaped container in said lowermost interior portion, said pick-up tube having an upper outlet end for discharging the powder, said lower end of said pick-up tube being closed and said inlet opening being positioned above said closed end; and

a powder pump for drawing the powder from said box-shaped container through said inlet opening of said pick-up tube and out of said upper outlet end.

~~12~~
~~11.~~ The apparatus of claim ~~10~~ wherein said cradle has a base plate and two adjoining side plates mounted vertically upward therefrom and converging therewith to form a cradle corner, said cradle being adapted to support a

bottom surface of said box-shaped container on said base plate, and two adjoining sides of said box-shaped container against said side plates, and a lower container corner of said box-shaped container in said cradle corner.

¹³
~~12~~. The apparatus of claim ¹¹~~10~~ further comprising a vibrator associated with said cradle for moving said powder within said box-shaped container towards said lowermost interior portion.

C1
¹⁹
~~13~~. The apparatus of claim ¹¹~~10~~ wherein said support structure is equipped with wheels so that said apparatus for unloading the powder can be easily moved as a unit.

¹³
14. The apparatus of claim ~~12~~ further comprising a control unit mounted on said support structure, said control unit controlling said powder pump for drawing the powder from said box-shaped container and said vibrator for moving said powder within said box-shaped container towards said lowermost interior portion.

¹⁷
¹³
~~15~~. The apparatus of claim ~~12~~ wherein said vibrator is attached to said cradle for vibrating said powder to loosen said powder and thereby encourage said powder to move by gravity towards said lowermost interior portion.

¹⁸
~~16.~~ The apparatus of claim ~~15~~¹⁷ further comprising a vibration damping isolation mount installed between said cradle and said support structure.

²⁰
~~17.~~ The apparatus of claim ~~16~~¹¹ wherein said powder pump is attached to said upper outlet end of said tube for transferring the powder drawn out of said box-shaped container into a feed tube for delivery to a powder spray gun.

¹⁵
~~18.~~ The apparatus of claim 14 wherein said powder pump is attached to said upper outlet end of said tube for transferring the powder drawn out of said box-shaped container into a feed tube for delivery to a powder spray gun.

¹⁴
~~19.~~ The apparatus of claim ~~18~~¹⁵ further comprising means for electrically interconnecting said control unit to said powder pump and said support structure and a ground strap for electrically grounding said control unit.

C Please cancel claims ~~20-36~~¹ and 39-41.

²¹
C2 ~~27.~~ (twice amended) An apparatus for unloading powder from a box-shaped container, said apparatus comprising:
a support structure;

a cradle mounted to said support structure for supporting said box-shaped container at an angle with respect to horizontal in a tilted position, said box-shaped container having a lowermost interior portion in said tilted position;

a pick-up tube constructed of spaced inner and outer concentric tubes, a lower inlet end of said pick-up tube having at least one inlet opening in said outer concentric tube adapted to being positioned within said container in said lowermost interior portion, a vent hole in said outer tube, and an upper outlet end of said pick-up tube for discharging the powder; and

a powder pump associated with said upper outlet end of said pick-up tube for drawing the powder from said container into said lower inlet end of said pick-up tube and drawing air through said vent hole and down through an annular space between said spaced inner and outer concentric tubes whereby said air and said powder are mixed to fluidize said powder and discharge said powder from said outlet end; [and] said pick-up tube having a closed lower end.

²²
38. The apparatus of claim ²¹37 wherein said pick-up tube has at least two inlet openings extending through said outer concentric tube above said closed lower end.

⁸
42.(amended) The apparatus of claim 1 wherein said

CS support arm includes an opening vertically aligned with said lowermost interior portion of said box-shaped container, with said pick-up tube being inserted through said opening of said support arm.

IN THE ABSTRACT

On page 31, lines 7 and 9, please delete "containers" and insert --container's-- in their place.

REMARKS

Claims 1-19, 37, 38 and 42 are now pending in the referenced application.

Claims 10-19 were held allowable over the prior art of record.

Claim 42 was rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Claim 42 has been amended to provide clear antecedent basis for the language "said opening" in line 4. Therefore this rejection should be withdrawn.

Claims 1-9, 37 and 38 were objected to because of informalities in the language. Claims 1, 4, have been

amended to correct these informalities. Accordingly, Applicants' respectfully request that these objections be withdrawn and claims 1-9, 37 and 38 held allowable.

Claim 36 was rejected under 35 U.S.C. §102 as being anticipated by Mulder, U.S. 4,505,623. This claim has been cancelled and is expected to be refiled in a divisional application which Applicants' intend to file to include the Claims 20-35 and 39-41 which have been cancelled as being drawn to a nonelected invention. Accordingly, the rejection of claim 36 is now moot.

The abstract was objected to because of a misspelling. The misspelling has been corrected and therefore the objection should be withdrawn.

The drawings were objected to for failing to show every feature of the invention. Specifically, the Office Action required that "or more" in claim 5, line 2 must be shown or cancelled from the claim. Claim 5 has been amended to state that the pick-up tube has "at least two inlet holes". Accordingly, the objection to the drawings should be withdrawn.

Applicants' have made a sincere effort to amend the application in accordance with the requirements of the

Examiner. If any further changes are required, the Examiner is invited to call the undersigned Attorney to expedite the allowance of this application.

Favorable reexamination and early allowance of this application is respectfully requested.

Respectfully submitted,



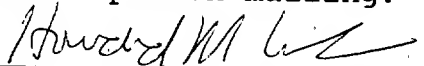
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Date



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of: Miller et al.

Serial Number: 08/126,391

Filed: September 23, 1993

For: **METHOD AND APPARATUS FOR TRANSPORTING POWDER COATING MATERIAL FROM A BOX SHAPED CONTAINER**

Group Art Unit: 3102

Examiner: A. Pike

Our Docket No.: NR-103CIP

August 2, 1995

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Washington, D.C. 20231

Sir:

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(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Claims Remaining After Amendment		Highest No. Previously Paid For	Present Extra	Rate	Additional Fees
Total Claims	22	Minus	** 41	= 0	\$22	= 0
Indep Claims	4	Minus	*** 7	= 0	\$76	= 0
				=		= 0
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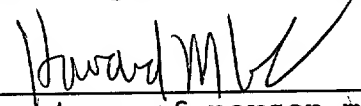
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Miller et al.

Serial Number: 08/126,391

Filed: September 23, 1993

For: **METHOD AND APPARATUS FOR TRANSPORTING POWDER COATING MATERIAL FROM A BOX SHAPED CONTAINER**

Group Art Unit: 3102

Examiner: A. Pike

Our Docket No.: NR-103CIP

August 2, 1995

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Total Claims	22	Minus	** 41	= 0	\$22	= 0
Indep Claims	4	Minus	*** 7	= 0	\$76	= 0
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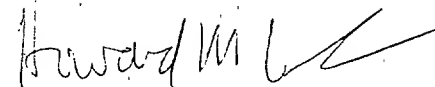
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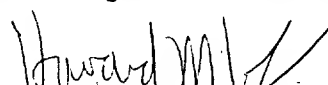
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